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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,085	11/29/2004	Ralph Reiche	2002P04430WOUS	9655

7590 04/17/2006

Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

ABRAMOWITZ, HOWARD E

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/516,085

Applicant(s)

REICHE ET AL.

Examiner

Howard E. Abramowitz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/29/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 13-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification discloses that one can diffuse a diffusion agent comprised of a first element and a second element into the partial area of the component or one can diffuse the first or second element of the diffusion agent into the component directly from the gas phase it does not disclose performing both steps in a single process (paragraph 33).

Claims 13-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The method of claim 13 requires the removal of a partial area of a component and diffusing a diffusion agent into the partial area. In the sequence presented it does

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not seem possible to remove a layer by a mechanical or acid treatment as claimed and then diffusing elements into the removed partial layer. While it is possible that the removing is performed after the diffusing this seems counterintuitive as the removing is recited first in the claim. Furthermore the specification is only enabling for performing the cleaning step prior to performing the diffusion step (paragraphs 32 and 33).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 13 and 27, it is unclear how one could diffuse a diffusion agent into a layer that has already been removed from the component. If the layer is still present on the component it is unclear how one could apply a diffusion coating directly to the component from the gas phase as it would have to pass through the partial area.

Regarding claims 14-27, these claims are rejected for being dependent on a rejected claim.

For the purposes of examination it will be assumed that claims 13 and 27 have the steps of, the partial layer is merely cleaned of corrosion deposited on the component and that the partial layer itself is not removed. Following this cleaning step a diffusion step is performed comprising a first and second element and a diffusion step

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is performed where either the first or second element of the diffusion agent is diffused into the component.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 13-17, 20 and 25-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Draghi et al. (US Patent No. 6,042,879).

Referring to claims 13 and 27, Draghi discloses cleaning a turbine blade with a mechanical treatment, a shower of abrasive grits, and diffusing a diffusion agent comprising a first and second element aluminum and silicon into the partial area of the component (columns 4-5 lines 63-16). Draghi et al. then discloses reforming the MCrAlY coating on the component, this would involve diffusing aluminum directly into the component from the gas phase (column 6 lines 25-30).

Referring to claims 14 and 15 the substrate is a super alloy which is a metal and a metal compound (column 3 lines 60-65).

Referring to claims 16 and 17, the second element of the diffusion agent can be aluminum.

Referring to claim 20, the diffusion agent aluminum can be applied to the surface of a component during the reapplication of the MCrAlY coating.

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Referring to claim 25, Draghi et al. discloses that the aluminum is diffused into the MCrAlY coating at a temperature of 1975 °F and this treatment allows for easier removal of the MCrAlY coating (column 5 lines 17-56). While a phase change is not specifically disclosed the process of heating the component to the high temperature and reintroducing aluminum at this high temperature would inherently produce a phase change which makes the coating more easily removable.

Referring to claim 26, the partial area is a MCrAlY coating (column 4 lines 3-19)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Draghi et al. in view of Jackson et al. (US Patent No. 4,117,179).

Referring to claims 21-24, the diffusion agent can be applied in the reapplication of the MCrAlY coating as discussed above in reference to Draghi et al, Draghi et al. does not teach how to reapply the MCrAlY coating. However, Jackson teaches that MCrAlY coatings can be applied by any means, including plasma spraying, cvd, pvd, or a pack method (column 4 lines 35-63). Accordingly it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Draghi et al. to use one of the methods taught by Jackson et al. to apply the MCrAlY coating, as these are conventional methods for applying such a coating and they would have a reasonable expectation of successfully applying the coating.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Howard E. Abramowitz whose telephone number is 571-272-8557. The examiner can normally be reached on monday-friday 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on 571-272-1423. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HEA
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TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER